

Application No. 10/686,640

Atty. Docket No. YOR20030192US1
(20140-00306-US)**REMARKS****Status of Claims:**

Claims 1-44 were pending in the application. Claims 1-13 and 44 are hereby cancelled without prejudice or disclaimer of subject matter contained within. The Applicant expressly reserves the right to prosecute the canceled subject matter in further divisional, continuation, and/or continuation-in-part applications. Claims 14 -43 are now pending. Each of the pending claims defines an invention that is novel and unobvious over the cited art. Favorable consideration of this case is respectfully requested.

Disclosure Supporting the Instant Amendment:

Claim 14 is hereby amended to recite: "coupling a laser radiation to at least one of said lining layers; and

using an LCVD process to fill [filling] said via with a solid metal." Support for these recitations was present in the original disclosure at, for example, paragraphs [0015 and 0016]. The amendment does not introduce new matter.

Rejection Under 35 U.S.C. § 102(e):

Claims 14-43 were rejected under 35 U.S.C. § 102(e) as being anticipated by Wang (6,686,278).

Rejection under 35 U.S.C. § 102 requires the prior art disclose each and every recitation of the claimed invention.¹ In determining anticipation, no claim recitation may be ignored.² Anticipation requires the disclosure, in a prior art reference, of each and every recitation as set forth in the claims.³ There must be no difference between the claimed invention and reference

¹ See MPEP § 706.02.

² See *Pac-Tex, Inc. v. Amerace Corp.*, 14 USPQ2d 1871 (Fed. Cir. 1990).

³ See *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1

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disclosure for an anticipation rejection under 35 U.S.C. § 102.⁴

Claim 14 is hereby amended to recite an LCVD process to fill the vias with solid metal. Wang relates to an ALD process (see the Abstract and *passim*). Each of the remaining claims incorporates the amended recitation by virtue of their dependence from Claim 14. The Applicants respectfully request that the Examiner withdraw the instant rejection as moot in view of the present amendment.

Rejections Under 35 U.S.C. § 103(a):

Claims 14 - 43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of the Examiner's remarks.

To establish *prima facie* obviousness of a claimed invention, all the claim recitations must be taught or suggested by the prior art. *In re Royka*.⁵ All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*.⁶ (MPEP § 2143.03). When evaluating the scope of a claim, every recitation in the claim must be considered. See e.g. *In re Ochiai*.⁷ (MPEP § 2144.08).

The Applicants respectfully request that the Examiner withdraw the instant rejection as moot in view of the present amendment as discussed above.

Claims 24 - 43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Ziv (5,060,595).

The Examiner cites Ziv as teaching LCVD. However, the present invention, as amended, distinguishes Ziv. Claim 14 is amended to recite "coupling a laser radiation to at least one of said lining layers." Zive teaches a Q-switched laser "wherein the wavelength of the laser light is chosen so that the beam energy passes mainly through the metal-containing gas and the field

USPQ2d 1081 (Fed. Cir 1986); and *Akzo N.V. v. U.S. International Trade Commission*, 1 USPQ2d 1241 (Fed. Cir 1986).

⁴ See *Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 USPQ2d 1001 (CAFC 1991) and *Studiengesellschaft Kohle GmbH v. Dart Industries*, 220 USPQ 841 (CAFC 1984).

⁵ *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

⁶ *In re Wilson*, 424 F.2d 1382, 165 USPQ 496 (CCPA 1970).

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oxide of an integrated circuit structure and is preferentially absorbed by the underlying substrate." (Col. 4, lines 20-25). Whereas, Ziv couples laser radiation to the substrate under a via, the present invention couples laser radiation to a via lining layer. In view of the fact that Wang is silent as to laser radiation, neither Ziv, nor Wang, nor any combination thereof, teaches coupling to a lining layer as required by the present invention. Therefore, the Applicants respectfully request that the Examiner withdraw the instant rejection as moot.

Conclusion:

In view of the above, consideration and allowance are respectfully solicited.

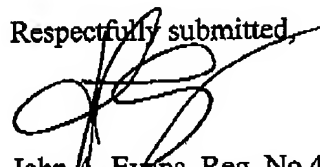
Accordingly, it is respectfully requested that the foregoing amendments be entered, that the application as so amended receive an examination on the merits, and that the claims as now presented receive an early allowance.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Commissioner is hereby authorized to charge any fees or credit any overpayment associated with this communication, including any extension fees or fees for the net addition of claims, to Deposit Account No. 22-0185.

Date: 8/19/05

Respectfully submitted,



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⁷ *In re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995).